

WHAT IS CLAIMED IS:

1. A pneumatic tire with at least one component of a thermally conductive rubber composition comprised of, based upon parts by weight per 100 parts by weight of rubber (phr):

- 5 (A) 100 parts by weight of at least one diene-based elastomer,
- (B) about 25 to about 140 phr of particulate carbon black and from zero to about 45 phr of synthetic, amorphous silica, wherein said particulate carbon black is selected from Categories of carbon blacks as:
- 10 (1a) Category (A) carbon black having a DBP value in a range of from 10 to about 50 cm<sup>3</sup>/100g and a NSA value in a range of from about 10 to about 30 m<sup>2</sup>/g;
- (1b) Category (B) carbon black as Category (B-1) carbon black having a DBP value in a range of from 50 to about 250 cm<sup>3</sup>/100g and a NSA value in a range of from about 180 to about 600 m<sup>2</sup>/g and Category (B-2) carbon black having a DBP value in a range of from 180 to about 220 cm<sup>3</sup>/100g and a NSA value in a range of from about 80 to about 120 m<sup>2</sup>/g
- 15 (1c) Category (C) carbon black having a DBP value in a range of from 70 to about 170 cm<sup>3</sup>/100g and a NSA value in a range of from about 70 to about 170 m<sup>2</sup>/g;
- (1d) Category (D) carbon black having a DBP value in a range of from 50 to about 150 cm<sup>3</sup>/100g and a NSA value in a range of from about 30 to about 70 m<sup>2</sup>/g;
- 20 wherein said pneumatic tire is a heavy tire having a tread region cross-section of a minimum thickness of 4 centimeters and said tire component is said tread of said rubber composition which contains said carbon blacks as a combination of said Category (A), (B) and (C) carbon blacks as:
- (2a) about 5 to about 50 phr of Category (A) carbon black and, correspondingly, about 20 to about 90 phr of Category (C) carbon black, or
- 25 (2b) about 2 to about 20 phr of Category (B) carbon black and, correspondingly, about 20 to about 120 phr of Category (C) carbon black, or
- (2c) about 5 to about 25 phr of Category (A) carbon black, about 2 to

about 10 phr of Category (B) carbon black and about 20 to about 100 phr of Category (C) carbon black; and

wherein said pneumatic tire is a heavy tire with a tread region cross-section minimum thickness of 4 centimeters having a component other than a tread of said  
5 rubber composition which contains said carbon blacks as a combination of at least two of Category (A), (B) and (D) carbon blacks as:

(3a) about 5 to about 50 phr of Category (A) carbon black and, correspondingly, about 20 to about 90 phr of Category (D) carbon black, or

(3b) about 2 to about 20 phr of Category (B) carbon black and,

10 correspondingly, about 20 to about 120 phr of Category (D) carbon black, or

(3c) about 5 to about 25 phr of Category (A) carbon black, about 2 to about 10 phr of Category (B) carbon black and about 20 to about 100 phr of Category (D) carbon black.

15 2. The tire of claim 1 wherein said component of said heavy tire is a tire tread which contains said carbon blacks as a combination of said Category (A), (B) and (C) carbon blacks as:

(2a) about 5 to about 50 phr of Category (A) carbon black and, correspondingly, about 20 to about 90 phr of Category (C) carbon black, or

20 (2b) about 2 to about 20 phr of Category (B) carbon black and, correspondingly, about 20 to about 120 phr of Category (C) carbon black, or

(2c) about 5 to about 25 phr of Category (A) carbon black, about 2 to about 10 phr of Category (B) carbon black and about 20 to about 100 phr of Category (C) carbon black.

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3. The tire of claim 2 wherein said carbon black is said combination (2a) of said Category (A) and (C) carbon blacks.

30 4. The tire of claim 2 wherein said carbon black is said combination (2b) of said Category (B) and Category (C) carbon blacks.

5. The tire of claim 2 wherein said carbon black is said combination (2c) of said Category (A), (B) and (C) carbon blacks.

6. The tire of claim 1 wherein said tire component of said heavy tire is a tire component other than a tire tread and where said tire component is said rubber composition which contains said carbon blacks as a combination of at least two of Category (A), (B) and (D) carbon blacks as:

- 5 (3a) about 5 to about 50 phr of Category (A) carbon black and, correspondingly, about 20 to about 90 phr of Category (D) carbon black, or  
(3b) about 2 to about 20 phr of Category (B) carbon black and, correspondingly, about 20 to about 120 phr of Category (D) carbon black, or  
(3c) about 5 to about 25 phr of Category (A) carbon black, about 2 to about  
10 10 phr of Category (B) carbon black and about 20 to about 100 phr of Category (D) carbon black.

7. The tire of claim 6 wherein said carbon black is said combination (3a) of said Category (A) and (D) carbon blacks.

- 15 8. The tire of claim 6 wherein said carbon black is said combination (3a) of said Category (B) and (D) carbon blacks.

9. The tire of claim 6 wherein said carbon black is said combination (3c) of  
20 said Category (A), (B) and (D) carbon blacks.

10. The tire of claim 6 wherein said tire component is selected from at least one tire shoulder block, tire sidewall apex tire sidewall rubber insert.

- 25 11. The tire of claim 1 wherein said tire component is of a rubber component exclusive of silica reinforcement.

12. The tire of claim 1 wherein said tire component is of a rubber composition which contains from about 5 to about 45 phr of precipitated silica.